



WaterAid/ Al-Emran

Faecal Sludge Management Landscape in South Asia



**A brief
overview**

2019



Sludge drying beds and constructed wetland for treating wastewater in the Sakhipur co-compost plant, Tangail, Bangladesh

Open defecation free

What next?

Countries in South Asia have seen tremendous progress towards achieving open defecation free (ODF) status. According to JMP data for 2017¹, only 13% of the population of South Asia was defecating in the open. However, little has been done to address the challenge of collecting, treating and disposing of the growing amounts of faecal sludge from on-site sanitation to ensure that it is safely managed. As governments begin to explore this problem, various initiatives have started to emerge, from national level policies and frameworks to pilot interventions of decentralised systems. WaterAid commissioned a study in South Asia (Bangladesh, India, Nepal and Pakistan) with two main objectives:

- 1. Understand key elements of the enabling framework for faecal sludge management (FSM) at country level:** policies and regulations, institutional roles and responsibilities, coordination, equity, inclusion, funding and financial considerations
- 2. Understand city-level FSM initiatives:** identify best practices, gaps, challenges and the potential for scale up

Information was gathered from literature review, stakeholder consultations and expert interviews in the respective countries. The cities were selected based on population, technology choices and planning approaches from collection through to disposal or reuse of the faecal sludge.

¹ <https://washdata.org/data>, accessed on 16 December 2017

Frameworks, forums and finances

The enabling environment

BANGLADESH

Bangladesh has been declared open defecation free and the government of Bangladesh has recognised faecal sludge management (FSM) as a focus area of intervention in its post-2015 agenda. The country has an Institutional and Regulatory Framework for FSM which outlines roles and responsibilities as well as possible ways to implement these services. Service delivery is delegated to local governments and private sector operators.

Coordination at national level between government agencies, NGOs, development partners and the private sector is done through the National Forum for Water Supply and Sanitation. The FSM Network Bangladesh is a network of sanitation

sector practitioners where ideas are shared and policies are discussed. This group was instrumental in developing the Institutional and Regulatory Framework for FSM.

The national budget for the water, sanitation and hygiene (WASH) sector has increased by 2.5 times over the last decade. FSM is recognised as a sub-sector with financial allocation but this is currently a very small proportion of the overall WASH budget. There is significant support from external agencies such as the Asian Development Bank.

There have been several city-level FSM initiatives in Bangladesh, two of which are summarised in boxes 1 and 2.

What?

- Implementation of a desludging service and a private entrepreneur collecting solid waste
- Sludge and solid waste treated at a co-composting plant using an unplanted drying bed
- Local farmers use the compost as a soil conditioner

Who?

Plant financed by WaterAid Bangladesh with support in kind given by the municipality. Income comes half from tariffs for waste collection and half from compost sales recovering about 70% of the cost. The plant is yet to be financially self-sustainable.

Comments

- Modular design enables easy scale up
- Challenging to create enough demand for the service
- Capacity of the municipality to sustain the system without support is limited

Intervention case study: Sakhipur, Bangladesh



WaterAid/ Sujaya Rath

Constructed wetland for treating wastewater in Sakhipur, Bangladesh

PAKISTAN

Urban Pakistan was reportedly declared open defecation free in 2017 and the country was the first to adopt the Sustainable Development Goals (SDG) Agenda 2030 through its parliament by a unanimous resolution. Pakistan aims to establish targets and national policy guidelines for water and sanitation but

as yet there is no framework or policy to guide FSM interventions. There are several reasons for this including a preference for piped sanitation, a lack of data and clarity regarding roles and responsibilities. There are therefore no case studies from Pakistan included in this study.

What?

- Implementation of a desludging service
- Construction of a planted sludge drying bed which requires minimal maintenance
- Liquid effluent discharged safely into environment
- Dried sludge can be disposed of without further treatment

Who?

Department of Public Health Engineering (DPHE) handled overall technical supervision and execution of the project. Citizen forum monitored implementation. Maintenance costs now borne by the municipality. Lack of further funding means there are no plans to improve services.

Comments

- Involvement of both DPHE and municipality helped drive the project
- Initiated and still managed by the municipality though they have limited skills to sustain the services
- Low demand for services
- Lack of performance monitoring

Intervention case study: Lakshmipur, Bangladesh



WaterAid/ Sujaya Rathi

Planted drying bed in Lakshmipur, Bangladesh

The Ministry of Climate Change is the focal point for WASH and responsible for policy formulation, but the implementation of projects is delegated to the provincial governments. Services are provided through planned and unplanned financial resources. In 2018, only 0.23% of Gross Domestic Product (GDP) was spent on

water and sanitation but research suggests that poor sanitation costs Pakistan 4% of its GDP every year. To facilitate the meeting of SDG targets, an allocation has been made for the establishment of the Pakistan WASH strategic planning and coordination cell in 2018-19 budget.

INDIA

Improving sanitation is a key priority of the Indian government. This is manifested in several flagship programmes such as the Swachh Bharat Mission (SBM) to clean India by eradicating open defecation by 2019. The government has already identified several post-ODF priorities which include the safe collection, conveyance, treatment and disposal of all faecal sludge.

In 2017, the National Policy on Faecal Sludge and Septage Management (FSSM) was published by the Ministry of Housing and Urban Affairs, which pays equal attention to both on-site and off-site sanitation services. Each state is expected to have a FSM policy and operative guidelines and the Urban Local Bodies (ULBs) should have resolutions to implement this directive.

Local government bodies have responsibility for the provision of sanitation facilities and they receive support from state and central governments. Large international donors such as GIZ, the World Bank and USAID have also played a significant role in helping to develop policies and drive projects. The National Faecal Sludge and Septage Management Alliance brings together all actors in the sector and has ultimately led to the formulation of the 2017 National Policy.

In most states, there is no separate budget for FSM though many state governments have allocated public funds for this purpose. There are also several ongoing schemes which provide financial support through the national government for FSM.

A city-level case study from Warangal, Telangana, India is shown in box 3.

Intervention case study: Warangal, India

What?

- Regulations adopted on septic tank designs and masons trained in construction, upgrading of latrines
- Media campaign to encourage regular desludging
- Formalisation of desludging operators and masons
- Two pilot treatment plants constructed: geobags and thermal treatment plant

Who?

Technical Services Unit for Warangal implemented the project with funding from BMGF and DFID. A non-sewer sanitation cell and sanitation innovation hub supported the projects.

Comments

- Strong evidence base helped build consensus on urgency of faecal sludge management services
- There is already a commitment to scale up the treatment plant
- If possible, land should be allocated close to the city to avoid large transportation costs

NEPAL

The Department of Water Supply and Sewerage (DWSS) claimed in 2018 that national sanitation coverage reached 98% and FSM is an emerging challenge. The Roadmap to the SDGs talks specifically about improvement of FSM as part of the approach to achieving the targets. In response to a call for a united vision on FSM, the Total Sanitation Guidelines was published in 2017 which include FSM as an indicator. Subsequently, an institutional framework on FSM in urban areas of Nepal outlined roles and responsibilities of key institutions and provided guidelines for implementation of FSM services.

The DWSS is responsible for encompassing FSM strategies and approaches in national policies and acts. They also develop and disseminate treatment plant designs, provide the capital cost for installation and prepare an operations & maintenance (O&M) manual. Local governments have responsibility for the overall planning, implementing and operation of services.

As part of Nepal's commitment to the SDGs, it allocated 2.59% of its total budget (2017-18) to WASH but there is currently no specific allocation for FSM.

Box 4 gives an example of a city-level FSM intervention in Gulariya, Nepal.

Intervention case study: Gulariya, Nepal

What?

- Locally improvised desludging vehicle developed
- Decentralised wastewater treatment system (DEWATS) constructed with seven sludge drying beds, a settler and anaerobic baffled reactor and a planted gravel filter
- Output should be safe organic fertilizer but due to lack of testing, it cannot currently be sold in markets

Who?

Land secured through an agreement with a Forest Users Group.
The municipality oversees O&M.
A project management committee has the responsibility to oversee and guide project implementation.

Comments

- Revenues not matching business plan due to more staff employed, low desludging demand and no sale of fertilizer
- The plant was not designed to be resilient to floods and as a result was damaged in its first year of operation
- Municipality require improved skills in operating faecal sludge management services

BOX 4

Lessons learnt

- 1. Leverage momentum through advocacy:** The leadership of politicians and decision makers is critical to advance FSM agenda. The current momentum and political commitment to FSM can be sustained through evidence-based advocacy using collaborative platforms to guide policy and resources.
- 2. Develop financing mechanisms:** Only user-fees cannot finance and sustain high-quality equitable FSM services, beyond donor grant support. Public funding is imperative, while the private sector involvement and scaling up of innovative business models are important for the sustainability of services.
- 3. Robust planning with some quick wins:** It is important to improve evidence around FSM through rigorous data collection that supports long-term planning. But quick wins are also important to maintain interest and momentum.
- 4. Regulate FSM services:** Regulations can help make interventions safer and equitable, especially if well monitored and enforced. Incentivising public private partnerships can contribute towards increased quality of sanitation services.
- 5. Use flexible management structures:** Dedicated decentralised FSM cells in the government structures are vital to sustaining development and innovation. External platforms like the FSM Network Bangladesh, can also provide valuable guidance to these cells as well as city authorities and utilities.
- 6. Build capacity:** There are many stakeholders involved in FSM and each have different capacity gaps and needs. Vocational training institutes and local academic institutions can be sources of support and assistance with capacity development initiatives.
- 7. Prioritise the rights of sanitation workers:** There is very limited understanding of safety, dignity and rights of sanitation workers involved in FSM. Increased priority, recognition and research is key to ensure appropriate action.

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